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PATENT CLAIMS:

1. Process for the decontamination of microlithographic projection exposure devices with optical elements (2) or portions thereof, in particular of surfaces of optical elements, with UV light and fluid, **wherein** a second UV light source (5) is directed, in intervals between exposures, onto at least a portion of the optical elements (2).
2. Process according to claim 1, wherein a relatively broad-band light source is used as the second UV light source (5).
3. Process according to claim 1 or 2, wherein a flow (12) of the fluid is produced for cleaning, directed parallel to the surfaces of the optical elements (2) to be cleaned.
4. Process according to claim 3, wherein the fluid for cleaning is branched off from a normal operation flushing gas supply (4).
5. Process according to claim 3 and 4, wherein the fluid provided for cleaning is introduced by deflecting the fluid stream from the fluid flow running parallel to the optical axis in normal operation.
6. Process according to claim 4 or 5, wherein the fluid provided for the cleaning is produced from the fluid flow running parallel to the optical axis in normal operation by the production of cross-flows by means of inhomogeneous magnetic or electric fields.
7. Process according to one of claims 3-6, wherein fluids with different densities are alternately used for flushing.
8. Process according to claim 4, wherein the supply of flushing fluid is produced from the normal operation fluid supply (4) by increasing the supply and transition from a laminar flow into a turbulent flow.

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9. Process according to one of claims 3-8, wherein the fluid is an ozone-containing gas.
10. Process according to one of claims 3-9, wherein the fluid is an oxygen-containing gas.
11. Microlithographic projection exposure device with a DUV excimer laser as the light source, wherein at least one further UV light source (5) is provided which can be switched in alternatively to the DUV excimer laser (3) and by means of which at least a portion of the optical elements (2) can be illuminated.
12. Microlithographic projection exposure device according to claim 11, wherein at least one gas supply device (7) is provided, which is provided for the supply of flushing gas when the further UV light source (5) is switched in.
13. Microlithographic projection exposure device according to claim 12, wherein radial flushing openings are provided in the device for the supply of flushing gas, and a directed flow over the surfaces of the optical elements (2) to be cleaned can be produced by means of them.
14. Microlithographic projection exposure device according to claim 12 or 13, wherein a gas supply device (4) provided for normal operation is provided as the gas supply device, a gas flow directed parallel to the optical axis being deflected in the direction toward the surfaces of the optical elements (2) to be cleaned.
15. Microlithographic projection exposure device according to claim 14, wherein mechanical vanes (11), pivotable or foldable for deflection, are provided for gas flow diversion.
16. Microlithographic projection exposure device according to claim 14, wherein inhomogeneous magnetic or electric fields are provided for the

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production of.

17. Microlithographic projection exposure device according to claim 14, wherein a device is provided for increasing the gas flow for the flushing operation.
18. Microlithographic projection exposure device according to one of claims 11-17, wherein the gas supply device (4 or 7) contains an ozone source.
19. Microlithographic projection exposure device with a light source, which is followed by a rod-shaped light guide for homogenization of the light emitted from the light source, wherein a UV light source (23) is arranged for the irradiation of the surface (27) for its decontamination, and the light guide (25) and the UV light source (23) are arranged within a reflector (21).
20. Microlithographic projection exposure device according to claim 19, wherein the UV light source (23) is arranged in a focus (29) of an ellipsoidal reflector (21), the light guide (25) being arranged in the other focus (31).